

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listing, of claims in the application:

Listing of the Claims:

1. (previously presented): A method of producing an active nickel powder comprising:
 - a) providing a feed material comprising nickel chloride wherein the feed material comprises a surface area in excess of about $1 \text{ m}^2/\text{g}$;
 - b) reducing said feed material with a reducing gas at a temperature of at least about 300°C ; and
 - c) recovering the resulting active nickel powder.
2. (previously presented): A method of producing an active nickel powder comprising:
 - a) providing a feed material comprising nickel chloride and other reducible nickel salt, wherein the weight ratio of chloride to total nickel is greater than 0.1 and wherein the feed material comprises a surface area in excess of about $1 \text{ m}^2/\text{g}$;
 - b) reducing said feed material with a reducing gas at a temperature of at least about 300°C ; and
 - c) recovering the resulting active nickel powder.
3. (previously presented): A method of producing an active nickel powder comprising:
 - a) providing a feed material comprising reducible nickel salt wherein the feed material comprises a surface area in excess of about $1 \text{ m}^2/\text{g}$;
 - b) reducing said feed material with a reducing gas at a temperature of at least about 300°C and concurrently contacting said feed material with HCl gas so as to convert at least a portion of the reducible nickel salts feed material to nickel

- chloride wherein the resulting ratio of chloride to total nickel is greater than 0.1;
and
- c) recovering the resulting active nickel powder.
4. (currently amended): A method of producing an active nickel powder comprising:
- a) providing a feed material comprising reducible nickel salt mixed with other soluble metal chloride salts, such as CrCl_3 , FeCl_3 , FeCl_2 , wherein the weight ratio of chloride to total nickel is greater than 0.1 and wherein the feed material comprises a surface area in excess of about $1 \text{ m}^2/\text{g}$;
- b) reducing said feed material with a reducing gas at a temperature of at least about 300°C , and
- c) recovering the resulting active nickel powder.
5. (currently amended): A method of producing nickel carbonyl comprising:
- a) ~~providing a feed material comprising nickel chloride wherein the feed material comprises a surface area in excess of about $1 \text{ m}^2/\text{g}$;~~
- b) ~~reducing said feed material with a reducing gas at a temperature of at least about 300°C producing an active nickel powder by the method of claim 1; and~~
- [[c]]b) contacting the resulting active nickel powder with a gas containing carbon monoxide at atmospheric or super atmospheric pressure to obtain nickel carbonyl.
6. (currently amended): A method of producing nickel carbonyl comprising:
- a) ~~providing a feed material comprising nickel chloride and other reducible nickel salt wherein the weight ratio of chloride to total nickel is greater than 0.1 and wherein the feed material comprises a surface area in excess of about $1 \text{ m}^2/\text{g}$;~~
- b) ~~reducing said feed material with a reducing gas at a temperature of at least about 300°C producing an active nickel powder by the method of claim 2; and~~

[[c]]b) contacting the resulting active nickel powder with a gas containing carbon monoxide at atmospheric or superatmospheric pressure to obtain nickel carbonyl.

7. (currently amended): A method of producing nickel carbonyl comprising:

- a) ~~providing a feed material comprising reducible nickel salt wherein the feed material comprises a surface area in excess of about $1\text{ m}^2/\text{g}$;~~
- b) ~~reducing said feed material with a reducing gas at a temperature of at least about 300°C and concurrently contacting said feed material with HCl gas so as to convert at least a portion of the reducible nickel salts feed material to nickel chloride wherein the resulting ratio of chloride to total nickel is greater than 0.1~~
producing an active nickel powder by the method of claim 3; and

[[c]]b) contacting the resulting active nickel powder with a gas containing carbon monoxide at atmospheric or superatmospheric pressure to obtain nickel carbonyl.

8. (currently amended): A method of producing nickel carbonyl comprising:

- a) ~~providing a feed material comprising reducible nickel salt mixed with other soluble metal chloride salt, wherein the weight ratio of chloride to total nickel is greater than 0.1 and wherein the feed material comprises a surface area in excess of about $1\text{ m}^2/\text{g}$;~~
- b) ~~reducing said feed material with a reducing gas at a temperature of at least about 300°C~~
producing an active nickel powder by the method of claim 4; and

[[c]]b) contacting the resulting active nickel powder with a gas containing carbon monoxide at atmospheric or superatmospheric pressure to obtain nickel carbonyl.

9. (previously presented): The method of claim 1 wherein said reducing step b) is performed at temperatures between 300°C and 600°C .

10. (previously presented): The method of claim 5 wherein step c) is performed at temperatures between 20°C and 100°C .

11. (previously presented): The method of claim 1 wherein step a) is performed by mixing together dry components.
12. (previously presented): The method of claim 1 wherein step a) is performed by wet mixing components and then removing the water by drying.
13. (previously presented): The method of claim 1 wherein step a) is performed by wet mixing components in the presence of HCl.
14. (previously presented): The method of claim 1 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt, and then removing the water by drying.
15. (previously presented): The method of claim 1 wherein the reducing gas in step b) comprises hydrogen.
16. (previously presented): The method of claim 12 wherein the drying portion of steps a) and the reducing portion of step b) are conducted concurrently.
17. (previously presented): The method of claim 12 wherein steps a) and b) are conducted sequentially.
18. (previously presented): The method of claim 1 wherein in step a), said nickel chloride is in the form of hydrates of nickel.
19. (previously presented): The method of claim 1, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated by exposing the active nickel powder to gas containing H_2 at a temperature of at least about 150°C.

20. (previously presented): The method of claim 19, wherein the active nickel powder becomes re-activated by exposing the active nickel powder to gas containing H_2 at a temperature between $150^{\circ}C$ and $600^{\circ}C$.
21. (previously presented): The method of claim 1 wherein in step a), the weight ratio of chloride to total nickel is greater than 0.1.
22. (previously presented): The method of claim 1, wherein the feed material comprises a surface area in excess of between 35 and $100\text{ m}^2/\text{g}$.
23. (previously presented): The method of claim 14 wherein the alkali salt is Na_2CO_3 .
24. (previously presented): The method of claim 23, wherein the reducible nickel salt is nickel chloride.
25. (previously presented): The method of claim 18, wherein the form of hydrates of nickel is $NiCl_2 \cdot 6H_2O$.
26. (previously presented): The method of claim 2, wherein the reducible nickel salt is selected from the group consisting of nickel carbonate, nickel sulfate, and nickel hydroxide.
27. (previously presented): The method of claim 2, wherein the feed material comprises a surface area in excess of between 35 and $100\text{ m}^2/\text{g}$.
28. (previously presented): The method of claim 2 wherein said reducing step b) is performed at temperatures between $300^{\circ}C$ and $600^{\circ}C$.
29. (previously presented): The method of claim 2 wherein step a) is performed by mixing together dry components.

30. (previously presented): The method of claim 2 wherein step a) is performed by wet mixing components and then removing the water by drying.
31. (previously presented): The method of claim 2 wherein step a) is performed by wet mixing components in the presence of HCl.
32. (previously presented): The method of claim 2 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt and then removing the water by drying.
33. (previously presented): The method of claim 2 wherein the reducing gas in step b) comprises hydrogen.
34. (previously presented): The method of claim 2 wherein in step a), said nickel chloride is in the form of hydrates of nickel.
35. (previously presented): The method of claim 34, wherein the form of hydrates of nickel is $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$.
36. (previously presented): The method of claim 2, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated by exposing the active nickel powder to gas containing H_2 at a temperature of at least about 150°C .
37. (previously presented): The method of claim 3, wherein the reducible nickel salt is selected from the group consisting of nickel carbonate, nickel sulfate, nickel hydroxide, and nickel chloride.
38. (previously presented): The method of claim 3, wherein the feed material comprises a surface area in excess of between 35 and $100 \text{ m}^2/\text{g}$.

39. (previously presented): The method of claim 3 wherein said reducing step b) is performed at temperatures between 300°C and 600°C.
40. (previously presented): The method of claim 3 wherein step a) is performed by mixing together dry components.
41. (previously presented): The method of claim 3 wherein step a) is performed by wet mixing components and then removing the water by drying.
42. (previously presented): The method of claim 3 wherein step a) is performed by wet mixing components in the presence of HCl.
43. (previously presented): The method of claim 3 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt and then removing the water by drying.
44. (previously presented): The method of claim 3 wherein the reducing gas in step b) comprises hydrogen.
45. (previously presented): The method of claim 3, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated by exposing the active nickel powder to gas containing H₂ at a temperature of at least about 150°C.
46. (previously presented): The method of claim 4, wherein the reducible nickel salt is selected from the group consisting of nickel carbonate, nickel sulfate, nickel hydroxide, and nickel chloride.
47. (previously presented): The method of claim 4, wherein the feed material comprises a surface area in excess of between 35 and 100 m²/g.

48. (previously presented): The method of claim 4 wherein said reducing step b) is performed at temperatures between 300°C and 600°C.
49. (previously presented): The method of claim 4 wherein step a) is performed by mixing together dry components.
50. (previously presented): The method of claim 4 wherein step a) is performed by wet mixing components and then removing the water by drying.
51. (previously presented): The method of claim 4 wherein step a) is performed by wet mixing components in the presence of HCl.
53. (previously presented): The method of claim 4 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt and then removing the water by drying.
54. (previously presented): The method of claim 4 wherein the reducing gas in step b) comprises hydrogen.
55. (previously presented): The method of claim 4, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated by exposing the active nickel powder to gas containing H₂ at a temperature of at least about 150°C.
56. (previously presented): The method of claim 5, wherein the feed material comprises a surface area in excess of between 35 and 100 m²/g.
57. (previously presented): The method of claim 5 wherein said reducing step b) is performed at temperatures between 300°C and 600°C.

58. (previously presented): The method of claim 5 wherein step a) is performed by mixing together dry components.
59. (previously presented): The method of claim 5 wherein step a) is performed by wet mixing components and then removing the water by drying.
60. (previously presented): The method of claim 5 wherein step a) is performed by wet mixing components in the presence of HCl.
61. (previously presented): The method of claim 5 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt and then removing the water by drying.
62. (previously presented): The method of claim 5 wherein the reducing gas in step b) comprises hydrogen.
63. (previously presented): The method of claim 5 wherein in step a), said nickel chloride is in the form of hydrates of nickel.
64. (previously presented): The method of claim 63, wherein the form of hydrates of nickel is $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$.
65. (previously presented): The method of claim 5, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated by exposing the active nickel powder to gas containing H_2 at a temperature of at least about 150°C .
66. (previously presented): The method of claim 6, wherein the reducible nickel salt is selected from the group consisting of nickel carbonate, nickel sulfate, and nickel hydroxide.

67. (previously presented): The method of claim 6, wherein the feed material comprises a surface area in excess of between 35 and 100 m²/g.
68. (previously presented): The method of claim 6 wherein said reducing step b) is performed at temperatures between 300°C and 600°C.
69. (previously presented): The method of claim 6 wherein step a) is performed by mixing together dry components.
70. (previously presented): The method of claim 6 wherein step a) is performed by wet mixing components and then removing the water by drying.
71. (previously presented): The method of claim 6 wherein step a) is performed by wet mixing components in the presence of HCl.
72. (previously presented): The method of claim 6 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt and then removing the water by drying.
73. (previously presented): The method of claim 6 wherein the reducing gas in step b) comprises hydrogen.
74. (previously presented): The method of claim 6 wherein in step a), said nickel chloride is in the form of hydrates of nickel.
75. (previously presented): The method of claim 74, wherein the form of hydrates of nickel is $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$.
76. (previously presented): The method of claim 6, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated

by exposing the active nickel powder to gas containing H_2 at a temperature of at least about 150°C.

77. (previously presented): The method of claim 7, wherein the reducible nickel salt is selected from the group consisting of nickel carbonate, nickel sulfate, nickel hydroxide, and nickel chloride.
78. (previously presented): The method of claim 7, wherein the feed material comprises a surface area in excess of between 35 and 100 m²/g.
79. (previously presented): The method of claim 7 wherein said reducing step b) is performed at temperatures between 300°C and 600°C.
80. (previously presented): The method of claim 7 wherein step a) is performed by mixing together dry components.
81. (previously presented): The method of claim 7 wherein step a) is performed by wet mixing components and then removing the water by drying.
82. (previously presented): The method of claim 7 wherein step a) is performed by wet mixing components in the presence of HCl.
83. (previously presented): The method of claim 7 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt and then removing the water by drying.
84. (previously presented): The method of claim 7 wherein the reducing gas in step b) comprises hydrogen.
85. (previously presented): The method of claim 7, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated

by exposing the active nickel powder to gas containing H_2 at a temperature of at least about $150^{\circ}C$.

86. (previously presented): The method of claim 8, wherein the reducible nickel salt is selected from the group consisting of nickel carbonate, nickel sulfate, nickel hydroxide, and nickel chloride.
88. (previously presented): The method of claim 8, wherein the feed material comprises a surface area in excess of between 35 and $100\text{ m}^2/\text{g}$.
89. (previously presented): The method of claim 8 wherein said reducing step b) is performed at temperatures between $300^{\circ}C$ and $600^{\circ}C$.
90. (previously presented): The method of claim 8 wherein step a) is performed by mixing together dry components.
91. (previously presented): The method of claim 8 wherein step a) is performed by wet mixing components and then removing the water by drying.
92. (previously presented): The method of claim 8 wherein step a) is performed by wet mixing components in the presence of HCl.
93. (previously presented): The method of claim 8 wherein step a) is performed by adding alkali to an aqueous solution of reducible nickel salt and then removing the water by drying.
94. (previously presented): The method of claim 8 wherein the reducing gas in step b) comprises hydrogen.
95. (previously presented): The method of claim 8, wherein the active nickel powder becomes de-activated due to storage in the absence of oxygen, and becomes re-activated

by exposing the active nickel powder to gas containing H_2 at a temperature of at least about $150^{\circ}C$.

96. (previously presented): The method of claim 8, wherein the soluble metal chloride salt is selected from the group consisting of $CrCl_3$, $FeCl_3$, and $FeCl_2$.